

Theater Support Vessel



R & D Symposium JLOTS & Logistics from the Sea





Outline

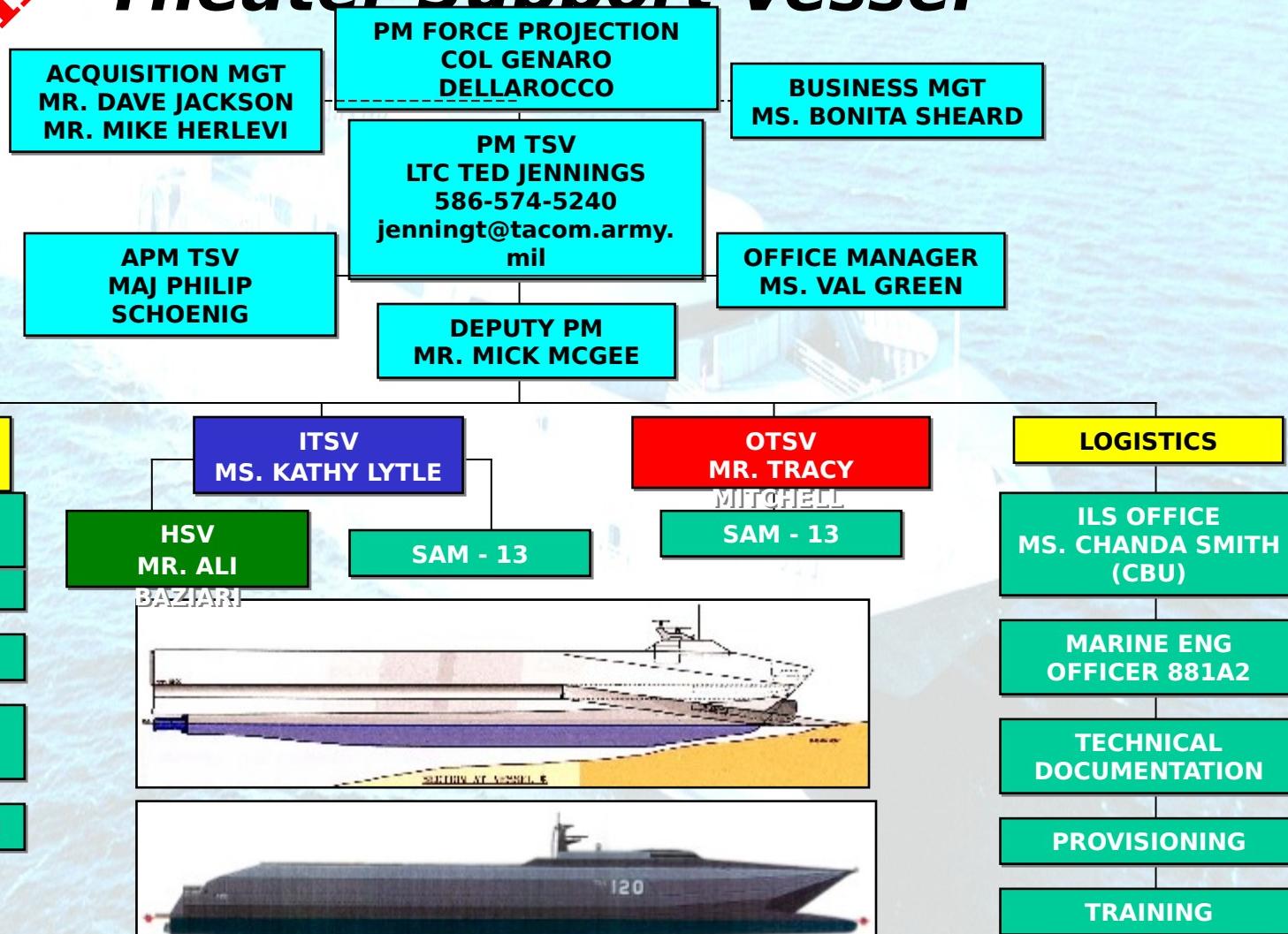
- Organization
- Acquisition Strategy
- HSV-X1 Demo
- Quick Looks
- Lease of 2nd Interim TSV
- Summary





Provisional

Product Manager Theater Support Vessel



Acquisition Excellence

PM Force Projection



U.S. ARMY



Acquisition Strategy

- Open Competition
- Dual Source
 - Provides surge capability for Army
 - Technology leap for U.S. Shipbuilding
 - Creates catalyst for commercial development
 - Rebuilds nation's shipbuilding industrial base
 - Generates political clout
 - Secures funding program





TSV Objective Capabilities

- * **Complements Intra-theater Air Lift (C-17/C-130)**
- * **Increased Deployability:** 40+ Knots Loaded
- * **Increased Payload:** 30,000 Sq Ft/1250 ST Capacity
- * **Increased Range:** 4700+ NM @ 40+ Knots
- * **Increased Survivability:** Sea State 7+ (Waves up to 40 Feet)
- * **Improved Situational Awareness:** En route Mission Planning
Joint Interoperable C4ISR
- * **Increased Responsiveness:** Integrated Unit Delivery
By-Passed Theater Choke Points Access to Austere Ports
Reduced Asymmetric Threats
- * **Improved Velocity:** Sustains Deployment Momentum
Offsets/Complements Strategic Airlift Improves Throughput

INTRA-THEATER LIFT



Increases Ports Accessible To JTF Commander By a Factor of 5



Operational and Technical Testing

- Army Technical Evaluation Center (ATEC)
 - Established independent evaluation team
 - Draft test plan available and final test plan scheduled 28 February 2002
 - Navy Carderock will assist ATEC in data collection and technical testing
- Established Critical Issue of Operation
- Army is also participating in the Navy's data collection and analysis process
- Drafts of each specific test available



Army Objective TSV Test Plan

Data Sources

- Joint Venture HSV-X1
- III MEF Lease
- Foreign Comparative Test (Potential)
- Naval Surface Warfare Center Previous Efforts
- Lease of 2nd Interim TSV





HSV Demonstration Mission

The HSV demonstration is a Joint effort exploring the concepts and capabilities associated with commercially available advanced hull and propulsion technology integrated with advanced communications technology. Over a period of 12 to 24 months, the project's partners will conduct a series of limited objective experiments, exercises, demonstrations, and training events in a leased commercial vessel.



Why Demonstration Vessel?

- Streamlines acquisition process (saves time and money)
- Demonstrate & Evaluate Overall Military Utility and Joint Applicability
 - Focus on Commercial-off-the-Shelf (COTS) technology
 - Analyze and identify design criteria and modifications required for military utility
- Conduct Technical and Operational Testing to Support Acquisition Objectives
 - *TSV Acquisition To Commence NLT FY 06*
 - Obtain User Input on Shortcomings of Commercial Technology
 - Refine Approved Operational Requirements Document (ORD)
 - Verify Technical Parameters
 - Refine Acquisition Strategy

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HSV Test Bed for TSV Application and Demonstration

Material Handling

Material Tracking System (MTS)

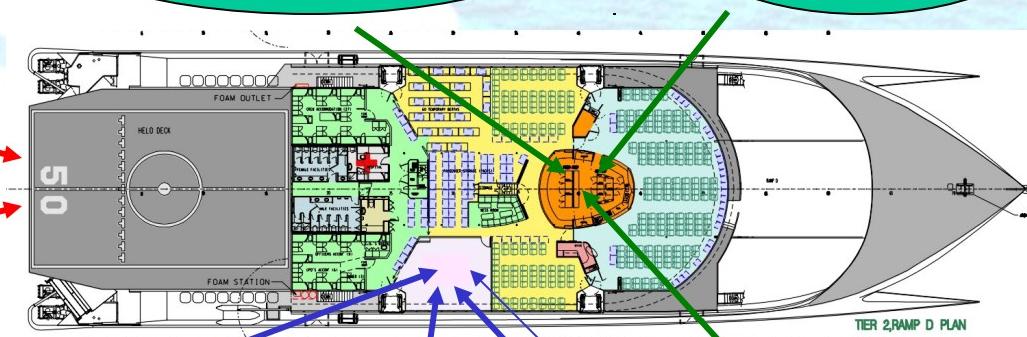
Land-based Warfighter EMPR
(Generic but tailorable)

Purple Intel Joint Coms
(Generic to all TSVs)

Bridge Commercial Communications

Electronic Navigation

Telelogistics





Army TSV-X1 Test Plan (Proposed)

<u>DATE</u>	<u>EVENT/LOCATION</u>
March	EUCOM (Green)
April 22-26	CAPEX (Red)
May 15-25	EUCOM (Green)
May 27-31	Dynamic Mix (Green)
July 24-August 16*	Millenium Challenge (Purple) C4ISR Checks
August 8-10	IBCT Backload/ (Green) Port Hueneme, Fort Lewis
September 3-13	Korea/USFK (Green)

* Navy Time = 8 July - 7 August



HSV Demonstration (Millennium Challenge 2002)

★ CSA and COT strongly support

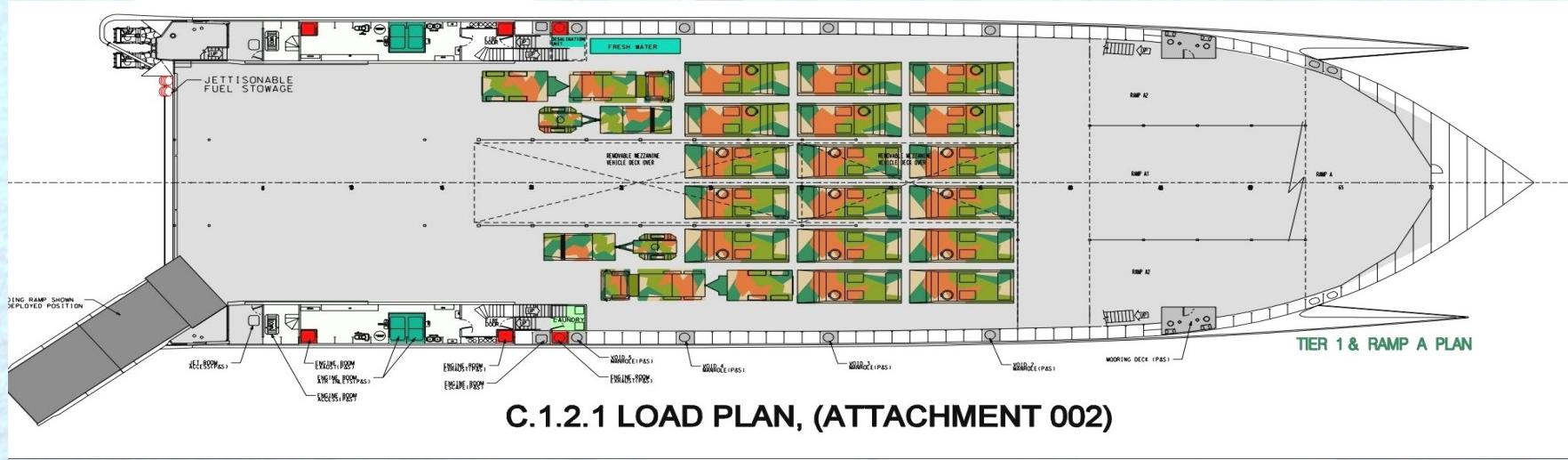
- Operational Maneuver from Standoff Distances in Joint Environment
- Reduced Logistics Infrastructure
- Bypassed Logistics Choke Points
- Multiple Points of Entry
- Rapid Transition



Fort Irwin



Demonstration Vessel Representative Load-out



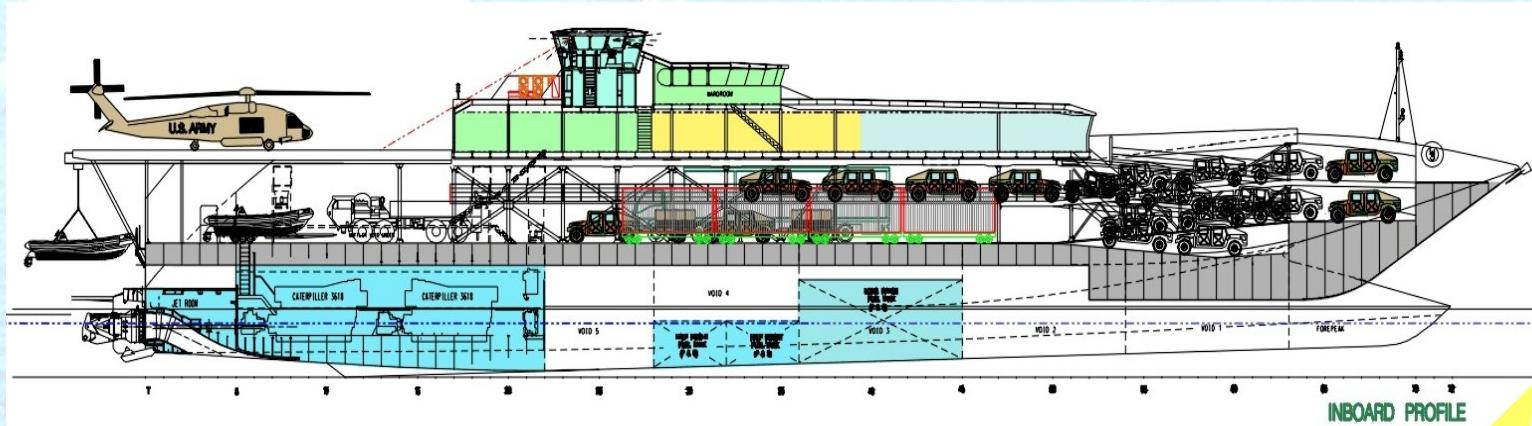
- **17 - LAV III, 2 - HMMWV, Cargo**
- **2 - FMTV/M1083, 2- FMTV/M1095**
- **2- 400gal water trailer, Misc. equipment**
- **209 Soldiers**



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HSV-X1 Capabilities



- Length Overall: 313.22 ft, beam - 87.27 ft
- Cargo Capacity: Up to 600 S Tons & 12,500 sq ft
- Personnel Capacity: 360
- Maximum draft : 12 ft
- Ramp: 35 tons
- Loaded Speed: 38 knots, lightship Speed - 48 knots
- Required Range: 2,400 nautical miles w/ 20% fuel reserve (actual ~4500 nm)
- Helicopter capable (CH-46, MH/UH/SH-60)
- Small boat launch and recovery - 11m RHIB, HSAC (Navy)
- Partnership Between Incat (Australia) & Bollinger (USA)

Weight Reduction
Critical For
Objective Force



HSV-X1 Quick Look

Navy

System	Transit on ramp	Main deck maneuverability	Main storage area overhead clearance	Mezzanine Ramps
Interim Fast Attack Vehicle (IFAV)	Yes	Yes	Yes	No problems
M998	Yes	Yes	Yes	No problems
M923	Yes	Yes	Yes	
Amphibious Assault Vehicle (AAV)	Yes	Damage to Aluminum Pad Eyes		
EBFL (ATLAS)	Yes	Yes	Yes	
RT-4000 Forklift	Yes	Yes	Yes	
M923/welding trlr	Yes			
M915 w/ M872	Could not traverse			



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Austal Quick Look

III MEF

- III MEF encountered shortfalls in existing transportation options:
 - Availability (conflicting priorities)
 - Affordability
- **III MEF Solution - Lease HSV**
- Comparative analysis indicated the HSV has been effective and operationally beneficial:
 - Single training exercise
 - Moved 970 Marines and 300 Stons in 1 day verses 14-17 days with C-17

Cost and Operational Benefit

15 Jul 01 - 26 Oct 01

(9000 Marines / 3700 Stons / 17,000+ NM)

	HSV	C17	Avoidance
Cost	\$4.8M	\$6.7M	\$1.9M
Days	38	138	100

Solution increases training time and ability to deploy forces as Marine Air Ground Task Force

Bottom line: More Training Days Available!!

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TSV-X1 Quick Look

Army

- **Ramp**
 - 35 Ston capacity is insufficient
 - Breakover point limits (drive on)
- **Helo-deck:** under evaluation
- **Crew and cargo together**
- **C4I**
 - Existing
 - * Automated Voyage Management Navigation System
 - * Commercial communications
 - Added
 - * En route mission planning
 - Proposed
 - * Telelogistics
 - * BCT TOC



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Lease of 2nd Interim TSV

Purpose: To supplement current intra-theater lift by moving the 7 backlog of 463L pallets and 20' containers in CENTCOM

- **Cost**

- Lease Cost, \$9.1M/yr
- Operating Cost, \$8.8M/yr

- **Schedule**

- Vessel can be delivered Jun 02 (Sole Source Acquisition)

- **Performance - 9 Potential Modifications**

- Container Handling Capability (463L and 20' Containers)
- Two 90-degree Stern Ramps, 70 Ton capability each
- HMMWV up front/HMMWV between decks
- Reinforced Deck, M1-capable
- Passive Defense (Example: flares, chaff)
- Helo-deck
- Integrated Threat Warning System
- Additional modifications for a CINC



Summary

TSV represents the **only Army system (intra-theater)** that can ***surpass*** the Army Transformation Vision goals of deploying a Brigade in 96hrs and a Division force in 120hrs.



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Theater Support Airsh (TSA)





Theater Support Airship (TSA)

Demonstrates the potential for enhancing the air delivery of Interim Brigade Combat Team and Objective Force “ready-to-fight” combat and sustainment payloads with vastly reduced infrastructure requirements.



FY05	FY06	FY02	FY03	FY04	
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~~UFR Provides:
UFR 6.3 (\$M)
Joint Force Commander Military Utility Assessment
of innovative airship technology~~

- Lightweight ultra-strength fabric, seaming technology and air cushion landing system
- 20T payload intratheater delivery in an austere theater of operations increasing operational flexibility
- Determination of supporting infrastructure requirements
- Vanguard for multi-role assessment requiring long endurance manned surveillance platform
 - Homeland Defense: Command and Control
 - Counter Terrorism: Intelligence Gathering
- Matures technology for developing larger, more capable airships for military strategic airlift & payoffs to the Interim and Objective Forces!
- Delivery of one Interim Armored Vehicle or 20T tactical payload airships
- Influences the design of future Civil Reserve Air Fleet airships with troops in operational mission ready, configuration, personnel, etc.

Transformation of Focused Logistics

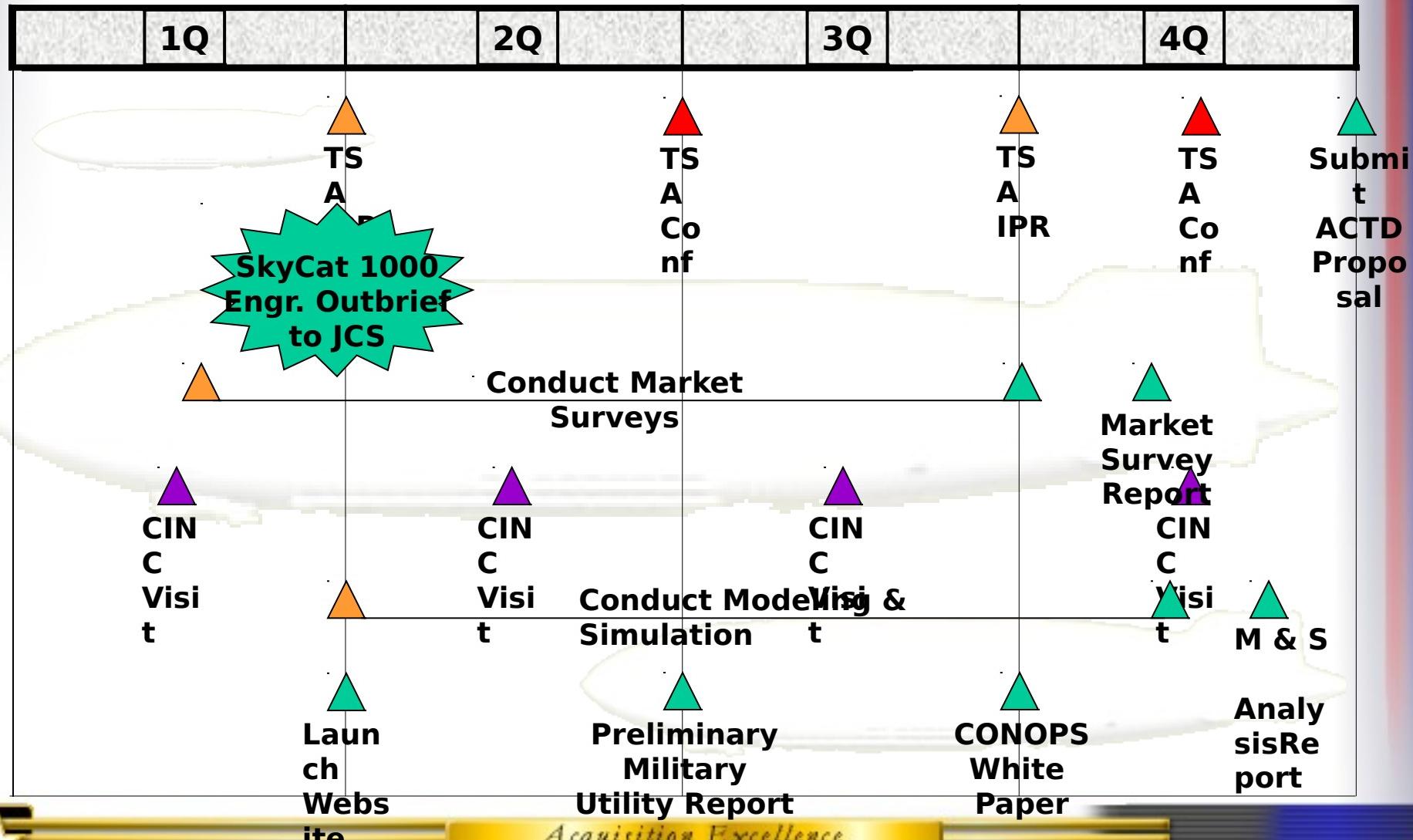
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TSA ACTD

Road Ahead (CY)



U.S. ARMY



Key Participants

- **Warfighter Representative**
(Targeted)
- **U.S. Joint Forces Command (USJFCOM)**
U.S. Transportation Command (USTRANSCOM)
U.S. Pacific Command (USPACOM)
U.S. European Command (USEUCOM)
U.S. Southern Command (USSOUTHCOM)
U.S. Central Command (USCENTCOM)

- **Operational Managers**

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- **Technical Manager**

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U.S. Army Combined Arms Support Command (CASCOM) Directorate for Combat Development-Transportation

- **Transition Manager**

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U.S. Army PEO Combat Support & Combat Service Support (CS&CSS), Project Manager Force Projection, in conjunction with U.S. Navy and Airforce

U.S. Army PEO CS&CSS, Project Manager Force Projection

